Field Change No.20 9/24/

Amendment #1

to the

Final Site Specific Health and Safety Plan

for the

Source Removal at the Mound Site IHSS 113

9-23-97

On September 3, 1997, three drums believed to contain radiologically contaminated soil below Tier II limits were emptied into the Mound Site excavation. The decision to place the soil into the excavation was based on original gamma spectroscopy analyses of samples obtained from the drums.

After emptying the three drums of soil into the excavation and backfilling of approximately 750 cubic yards of treated Mound Site soil into the excavation, it was found that the original gamma spectroscopy analyses were in error. After the errors were discovered, the samples were analyzed a second time onsite and a third time by an independent off site laboratory. The results from the second and third analyses revealed radiological contamination of the soil which exceeded Tier I limits and thus require removal from the excavation.

Although work activities required to excavate the radiologically contaminated soil are similar to those implemented during the original Mound Site source removal, significant differences exist which would require a near complete revision to the Health and Safety Plan (HASP). Rather than develop a complete revision, it was decided to amend the HASP. This amendment addresses all areas of the original HASP and either references it or states the new requirements. In addition an Activity Hazard Analysis has been prepared and is attached.

Section 1 - All information within section 1 is applicable with the exception that the work is not mentioned in the Auditable Safety Analysis.

Section 2 - Project Personnel Responsibilities

Project personnel responsibilities remain the same. Figure 2.1 has been revised and is attached.

Section 3 - Site Information

Site information remains the same except for the reason why we are excavating the Mound Site which is

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mentioned above.

Section 4 - Scope of Work

The scope of work involves the excavation of approximately 650 cubic yards of treated Mound Site and clean natural soil to gain access to the radiologically contaminated soil. Because the contaminated soil is at approximately nine feet below grade, excavation down to a depth of six feet will be conducted as a construction activity under OSHA 29 CFR 1926. Once at six feet below grade, work will be conducted under the stipulations of DOE Title 10 CFR 835 - "Occupational Radiation Protection" and OSHA Title 29 CFR 1926.65 - "Hazardous Waste Operations and Emergency Response". Upon reaching six feet, excavation will be conducted in six inch lifts. Field Instrument for the Detection of Low Energy Radiation (FIDLER) readings will be obtained on each six inch lift to find the contaminated soil. Hand shovels will also be used to locate and recover the contaminated soil which will be appropriately packaged and shipped offsite for disposal. Removal of contaminated soil will be verified by the use of the FIDLER and sampling of the bottom of the excavation. After confirmation that all contaminated soil is removed, the excavation will be backfilled.

Section 5 - Hazard Assessment

This section has significant differences because the VOCs were removed during the low temperature thermal desorption phase of the project and the radiological contamination in the soil is higher. The highest level of Uranium-238 in the soil is 1150 pCi/g (see attached analytical). The biological and physical hazards remain the same.

Section 6 - General Health and Safety Requirements

Section 6 remains the same with the exception of the training requirements which do not include Respirator Indoctrination, Respirator Fit Chamber Certification, Supplied Air Respirator Indoctrination, and Lock Out/Tag Out Briefing.

Section 7 - Site Specific Health and Safety Requirements

All sections remain the same with the exception of the following:

- Work zones will be the same as those listed, however, the CRZ/RBA and EZ/SCA will not be established until the excavation is six feet deep.
- PPE will be as follows:

  Excavation down to six feet - Safety shoes and safety glasses with side shields. Hard hats and reflective vests will be worn by ground personnel working around heavy equipment.

  Excavation beyond six feet - Safety shoes, safety glasses with side shields, Tyvek®, inner surgeon

gloves, outer nitrile gloves, and rubber booties. Hard hats and reflective vests will be worn by ground personnel within the EZ/SCA boundary.

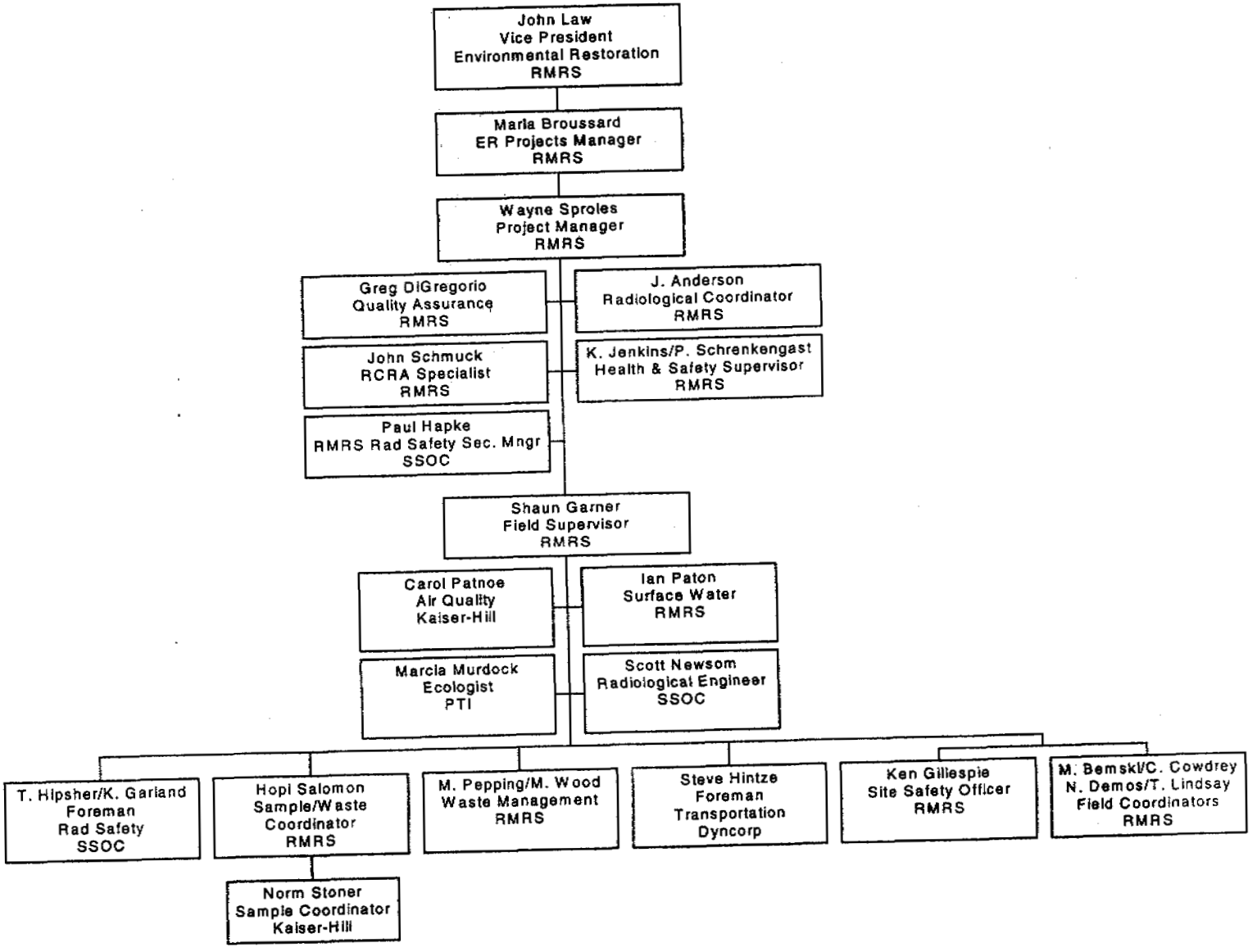
- Radiological monitoring requirements will remain the same except FIDLER readings which are not required until the excavation reaches six feet in depth. Once at six feet, FIDLER readings will be taken as necessary (minimum of six inch lifts) until the contaminated soil is uncovered, excavated, and packaged.
- Industrial Hygiene monitoring will be the same except that a Thermo Environmental Inc., Model 580B, Organic Vapor Monitor will be used as a precaution only. Note: Should VOCs be detected in the breathing zone at levels greater than background, project activities will pause and the potential hazard will be assessed.
- No personal integrated sampling for volatile organic compounds will be conducted.
- Due to the absence of chemically contaminated soil a boot wash will not be required.

Section 8 - Emergency Response Plan

All sections remain the same except spills which are considered incidental. Spills of gasoline and diesel, depending on an evaluation by the Site Safety Officer, may require an emergency response.

Approved:	**Signature**	**Date**
RMRS Project Manager-Wayne Sproles	Wayne R Sproles	9-24-97
RMRS H&S Supervisor-Peggy Schreckengast	Peggy Schreckengast	9-24-97
RMRS Radiological Coordinator-Jerry Anderson		9/24/97
SSOC Radiological Engineer-Scott Newsom	Scott B Newsom	9/24/97

Figure 2.1
Project Organization



T-3/T-4 Hotspot Soil Radioisotopic Data

The following four 250 ml samples were obtained from three drums of soil generated during the T-3/T-4 hotspot clean up; gamma spectroscopy was performed in order to characterize the soil.

Sample No. Drum No.	Sept. 11, 1997 First Count [1] pCi/g U-238	Sept. 13, 1997 Second Count [2] pCi/g U-238	Sept. 15, 1997 Third Count pCi/g U-238	Average Activity pCi/g U-238	Net Weight grams	Count Time seconds	Independant Laboratory Data Sept. 18, 1997 Results [4] pCi/g Th-234 (U-238)
DB00034RM D88422	179	310	112.8	200.6	299.64	1800	382
DB00035RM D88422A	77.4	157	94.3	109.6	310.85	1800	286
DB00036RM D88396	363	672	369 [3]	468	390.40	1800	1150
DB00037RM D88421	115	150	138	134.3	320.85	1800	323
							535.25 [5] / 602.33 [6]

NOTES:

1. Spectrum originally collected on June 5, 6, and 9, 1997. Reanalysis of spectrum completed on date stated.
2. Measurement taken at the side of the container exhibiting the highest count rate.
3. Measurement performed on September 13, 1997.
4. Laboratory results are summarized in this column. Original samples were dried and homogenized. A 100g aliquot was removed from each sample for counting.
5. 535.25 pCi/g is the average of all four samples results as reported by the laboratory.
6. 602.33 pCi/g is the average of the three drums. The average of the duplicate samples was used for drum D88422.

REFERENCE: RECA SUBSURFACE SOIL ACTION LEVELS FOR U-238

Tier I Open Space	**586 pCi/g**
Tier I Industrial	**506 pCi/g**
Tier II Future Resident	**103 pCi/g**

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